Wor	$rk^{T}O$	rder	ID	61352
****		uu	11/	U1334



Page 1

August 19, 2010 9:24:44 AM

Item ID:

D205-634-041

Accept



Setup Start

Stop



Revision ID:

Item Name:

Required Date: 9/06/10

Replacement Skidtube

Start Date:

8/19/10

QC:

Start Qty: 1.00

Req'd Qty: 1.00



Cust Item ID:

Customer:

Reference:

Approvals:

Process Plan:

Date:

Date: 10/2/19 Tooling:

SPC (Y/N):

Date:

Date:

Run Start



Stop

Sequence ID/ Work Center ID

Operation Description

Set Up/ Run Hours Tool ID

Tool # Plan

Accept Code Qty

Reject **Qty**

Reject Number

Insp. Stamp

Draw Nbr

Revision Nbr

D2580 Rev D

100

110

DOCUMENT CONTROL

Memo

0.00

0.00

Document Control

Photocopy D205-634 bluefile & type labels per PPP D205-634-041 CHG002

0.00

CNC Bend 1

CNC Delta 100 Bender

BENDING MACHINE - SKIDTUBES

Memo

0.00

1-Bend as per program D2580.C on CNC Bender and Folio 16

2-Cut tubes as per Dwg. D2580

3- scribe batch# in aft end of tube



Page 2

August 19, 2010 9:24:44 AM

Item ID:

D205-634-041

Accept



Setup Start



Stop

Revision ID:

Item Name:

Required Date: 9/06/10

Replacement Skidtube

Start Date:

8/19/10

OC:

Start Otv: 1.00

Req'd Oty: 1.00



Cust Item ID:

Customer:

Reference:

Approvals:

Process Plan:

Date:

Date:

Tooling:

SPC (Y/N):

Date:

Date:

Run Start



Stop

Reject

Sequence ID/ Work Center ID

Operation Description Set Up/ **Run Hours** Tool ID

Tool # Plan Code

Accept Oty

Reject Qty

Insp. Number Stamp

120

Skidtubes Skidtubes

Memo

0.00

0.00

1- Deburr ends

2- C'sink holes as per dwg without cutting fluid

3- Prepare tube for welding, remove alodine as required.

4- Scribe batch number insied aft end of tube.

130

QC5- Inspect part completeness to step on W/O

0.00



Quality Control

Memo

0.00

1 - 8E196

T .	**
Item	
116111	117.

D205-634-041

Accept



Setup Start

Stop



Revision ID: 6

Item Name:

Required Date: 9/06/10

Replacement Skidtube

Start Date:

8/19/10

QC:

Start Qty: 1.00 Req'd Qty: 1.00

Cust Item ID:

Customer:

Reference:

			_	
Αı	nn	rov	als	•

Process Plan:

Date: Date:

Tooling:

SPC (Y/N):

Date:

Date:

Start Run



Stop

Reject

Insp.

Sequence ID/ Work Center ID

Operation Description Set Up/ **Run Hours** Tool ID

Tool # Plan Code

Accept .Qty

Reject Oty

Number Stamp

140

Skidtubes Skidtubes

Memo

0.00

0.00

1-Weld step D2576 as per Dwg. D2580 and QSI 004 A/R□□□ Aluminum Rod

2-Prep per QSI 005 and weld crossbolt spacers D2579 as per Dwg. D2580, QSI

For D2579 spacers, weld one side, pass 3/8" drill, weld other side, pass 3/8" dril A/R□□□ Aluminum Rod

3-Grind welds as per Dwg D2580 Grind flush ridge made from bending

4-Drill holes for wearplates using DT 8217 & DT8937 Open holes to 19/64" adjust stopper not to hit web.Deburr

5-Counterbore crossbolt spacers to 7/16" ID x 1.0" deep as per Dwg D2580. Deburr holes

6-Drill pilot holes for aft cap using DT 8215Open holes to 0.208". Deburr

7-Drill pilot holes for Tow ring using DT8091, open to .640" and Deburr



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August 19, 2010 9:24:44 AM

Item ID:

D205-634-041

Accept



Setup Start



Stop

Revision ID: ~

Item Name:

Replacement Skidtube

Start Date:

8/19/10

Start Qty: 1.00

Required Date: 9/06/10

Req'd Qty: 1.00



Cust Item ID:

Customer:

Reference:

Approvals:

Process Plan: ____ Date:

Tooling:

Date:

Run

Start

Stop



Date: _____

SPC (Y/N):

Tool # Plan

Reject

Reject

Insp.

Sequence ID/ Work Center ID

150

Quality Control

Operation **Description**

OC10- Inspect visual per OSI004- ground welds

Memo

Run Hours

Set Up/ **Tool ID**

Date:

Accept Code Qty

Qty

Number Stamp

160

Quality Control

QC5- Inspect part completeness to step on W/O

0.00 bf 10-9-07.



170

HandFinish Hand Finishing Pressure Wash per QSI005 4.3

Memo

Memo

0.00

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch and leave fwd cap out of solution.

Page 5

August 19, 2010 9:24:44 AM

Item ID:

D205-634-041

Accept



Setup Start



Stop

Revision ID:

Item Name:

Replacement Skidtube

Start Date: Required Date: 9/06/10

8/19/10

Start Qty: 1.00

Req'd Qty: 1.00



Cust Item ID:

Customer:

Reference:

Approvals:

Process Plan:

Date: _____

Date:

Tooling:

SPC (Y/N):

Date:

Date:

Start



Stop

Sequence ID/ Work Center ID

180

Powdercoat

Powder Coating

Operation **Description**

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

Memo

START TIME: OVEN TEMPERATURE

FINISH TIME:

Set Up/

0.00

Run Hours

Tool ID

Tool # Plan Code

Accept Qty

Reject Qty

Run

Reject Insp. Number Stamp

190

Quality Control

QC3- Inspect Part Finish

Memo

0.00

PS 120101 (MC=

Work	\mathbf{O}	rder	ID	61	352
AAOIK	~	luci	w	V.	$JJ\mu$



Page 6

August 19, 2010 9:24:44 AM

Item	ID:	
D		

D205-634-041





Setup Start



Stop



Revision ID:

Item Name:

Replacement Skidtube

Start Date:

Hand Finishing

8/19/10

Start Qty: 1.00

Required Date: 9/06/10

Req'd Qty: 1.00



Cust Item ID:

Customer:

Reference:				D	un Star		44 0 (9 1 14 0) (90)		
Approvals:	Process Plan:	Date:	Tooling:	Date:		K	un Star Sto		
* * * *	QC:	Date:	SPC (Y/N):	Date:					
Sequence ID/ Work Center II	Operation Description		Set Up/ Run Hours	Tool ID Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
200 HandFinish	Memo		0.00 =) }	10/09/29			\$		

1-Install inserts & wearplates & Gaskets as per Dwg. D2580. Use a drop of
Sikaflex on insert holes before installing wearplates A/R □□□ Sikaflex-291
A/R \square Sikaflex-291 \square \square \square \square \square \square \square
Sikaflex expire date: 110

- 2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2580
- 3-Inspect for foreign object per QSI 024

4-Install 2855 Aft Cap as per Dwg D2580 and seal Fwd Step & Aft Cap with



Page 7

August 19, 2010 9:24:44 AM

Required Date: 9/06/10

Item ID:

D205-634-041

Accept



Setup Start



Revision ID:

Item Name:

Replacement Skidtube

Start Date:

8/19/10

Start Qty: 1.00

Reg'd Oty: 1.00



Cust Item ID:

Customer:

Reference:

Approvals:

Process Plan: _____ Date: _____

Date:

Tooling:

SPC (Y/N):

Set Up/

Run Hours

Tool ID

Date:

Tool # Plan

Code

Date:_____

Start Run

Stop

Stop

Sequence ID/

Work Center ID

210

Quality Control

Operation

Description

8 volostza

0.00

0.00

Foreign objects per OSI 024

QC5- Inspect part completeness to step on W/O

Memo

Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for

220

230

Packaging

Packaging

Packaging

Memo

Identify and pack for shipping as per PPPD205-634-041

Location:

PPP Rev:

QC21- Final Inspection - Work Order Release

0.00

Quality Control

Memo

0.00

Reject Qty

Accept

Qty

Reject Number

Insp. Stamp

60/0/10/8

10/10/08/8 mr-08

Picklist Print

August 19, 2010 9:24:44 AM

Work Order ID: 61352

Parent Item:

D205-634-041

Parent Item Name: Replacement Skidtube



Start Date: 8/19/10

Required Date: 9/06/10

Page 1

Start Qty: 1.00

Required Qty: 1.00

Comments:

IPP Rev:N□02.08.28□FP was QC5 in Step 27; Added QC5 to Step 30□KJ

IPP Rev P 10.02.19 per PAR09-043 EC verified by:DD

Manufactured

No

IPP Rev. O 06.02.28 Added paperwork

IPP Rev:P 07-07-09 SS Wearplates & Gaskets JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2580-1		Manufactured	No			110	Each	5.0000	4 	1			

205 Skidtube bent detail

Location	Loc Oty	Loc Code
LG B/0/805	4	
57028	1	
60956	1	
61191	2	
ST046	1	
59856	1	
_		

D2576-3

Step (maching detail)

Location	<u>n</u>	Loc Q	<u>ty</u>	Loc Code
LG /	3/0/8/05	•	4	
1	57028		1	
	60956		1	
	61191		2	
ST046			1	
	59856		1	
		140	Each	84.0000

Location	Loc Oty	Loc Code
LG	84	
46661	36	
52215	48	

BE 10-09-15

Work Order ID: 61352

Parent Item:

D205-634-041

Parent Item Name:

Replacement Skidtube



Start Date: 8/19/10

Required Date: 9/06/10

Start Qty: 1.00

Required Oty: 1.00

D2579 Crossbolt Spacer Manufactured

140

Each 295.0000 20

20

			<u>Location</u>	
			LG	
			57052	
			57348	
			58433	
			59113	
			60845	
D2855	Managada	No		

Loc Otv 295 5 4 2 182 102 200 Each

77.0000

Loc Code

Loc Code

30 BE 10/09/15 MI 10/09/29

Purchased	No

Location Loc Qty FP6 1 56613 ST026 76 50513 50770 28 51539 2 45 53791 200 Each

1.534.000

10/09/29

Location	<u>Loc Otv</u> 1534
ST350	
105057	534
115016	500
115371	500

Loc Code

AN3-5A

Cap

Work Order ID: 61352 Parent Item: D205-634-041 Required Date: 9/06/10 Parent Item Name: Replacement Skidtube **Start Date:** 8/19/10 Start Qty: 1.00 Required Qty: 1.00 NAS1149D0332J Purchased 200 Each 2,623.000 AN960JD10L No JN 10104129 Washer Loc Oty Loc Code Location ST348 2623 M114348 2623 110985 878.0000 50 ALS7-1032-130 Purchased No 200 Each JH 10/09/29 Insert Loc Qty Loc Code Location FP 861 γ 50 M114723 115079 861 17 ST282 17 113238 1,991.000 200 Each 50 AN3C4A Purchased No 10/09/29 **BOLT** Location Loc Qty Loc Code 500 ST303 500 115438 ST350 1491 114108 14 114416 12 114523 2 114941 463 X50 1000 115300

Work Order ID: 61352 D205-634-041 Parent Item: Required Date: 9/06/10 **Start Date: 8/19/10** Parent Item Name: Replacement Skidtube Start Qty: 1.00 Required Qty: 1.00 29.0000 50 50 200 Each AN960C10L NAS1149C0332 No Purchased 10/09/29 washer Location Loc Qty Loc Code ST245 29 1115698 X50 29 107534 26.0000 200 Each No D3566-13 Manufactured 10/09/29 Gasket Loc Qty Loc Code Location FP012 26 18 5966L 8 60209 Each 30.0000 200 D3566-5 Manufactured No 10/09/29 Gasket Loc Qty Loc Code Location FP 22 χţ 22 60869_ 8 FP015 8 59158 200 Each 19.0000 No D3566-1 Manufactured M 10/04/29 Gasket Loc Qty Loc Code Location VZ 1361656 FP 60857 14 FP015 2 57715 60202 12

Picklist Print

· 54

Page 5

August 19, 2010 9:24:44 AM

Work Order ID: 61352 Parent Item: D205-634-041 **Start Date: 8/19/10** Required Date: 9/06/10 Parent Item Name: Replacement Skidtube Start Qty: 1.00 Required Qty: 1.00 200 Each 4.0000 D3564-11 Manufactured Wearshoe Loc Code Loc Qty Location B60302 FP019 4 59941 23.0000 No 200 Each D3564-13 Manufactured Wearshoe Loc Qty Loc Code Location | 23 FP17 59660 11 60862 12 20.0000 200 Each D3564-9 Manufactured No Wearshoe Location Loc Oty Loc Code FP 55334 19 FP019 59201 6 60236 13

Work Order ID: 61352 . 1864 | 1864 | 1864 | 1864 | 1864 | 1864 | 1864 | 1864 | 1864 | 1864 | 1864 | 1864 | 1864 | 1864 | 1864 | 1864 D205-634-041 Parent Item: Required Date: 9/06/10 **Start Date: 8/19/10** Replacement Skidtube Parent Item Name: Start Qty: 1.00 Required Qty: 1.00 200 21.0000 Each D3564-5 Manufactured No Il lolog lag Wearshoe Loc Code Location Loc Qty FG 1 34806 FP19 2 57525 1 58709 FP-19 18 59157 6 12 60868 Each 275.0000 16 200 16 No D2594-3 Manufactured 4l 10/09/29 O-Ring, 205 Skidtube Location Loc Qty Loc Code M61762 275 FP 19 55546 58191 12 59358 244 200 Each 355.0000 16 16 D2594-1 Manufactured No 10/09/29 Plug, 205 Skidtube Location Loc Qty Loc Code FP 183 1361937 112 42807 55002 71 FP14 172 15 58434

157

59110



DESIG	#	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
CHECK	(ED _A //	APPROVED	DRAWING NO. REV. D
:	THE STATE OF THE S	-	D2580 SHEET 1 OF 3
DATE			TITLE SCALE
07.0	2.27		205 SKIDTUBE ASSEMBLY NTS
Α		96.09.16	NEW ISSUE
В		96.12.02	AS MANUFACTURED
С		98.08.26	REDRAWN, INCLUDED DEO 9094/9097
D		07.02.27	CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/9183



QTY	QTY	Part Number	Description
-041 X	-045_	D2580-041	SKIDTUBE ASSEMBLY
├ ^-			SKIDTUBE ASSEMBLY
	X	D2580-045	SKIDTUBE ASSEMBLT
<u> </u>		50500 4 400	EVENUEN
1	1	D2500-1-190	EXTRUSION
1	11	D2576-3	STEP
20	24	D2579	CROSS BOLT SPACER
16	16	D2594-1	PLUG
16	16	D2594-3	O-RING
1	1	D2596	205 WEB
1	1	D2855	AFT CAP
1	1	D3564-5	WEARSHOE
1	1	D3564-9	WEARSHOE
1	1	D3564-11	WEARSHOE
1	1	D3564-13	WEARSHOE
2	2	D3566-1	GASKET
1	1	D3566-5	GASKET
1	1	D3566-13	GASKET
50	50	ALS7-1032-130	INSERT
	**	or AKS7-1032-130	l "
1	ļ	or AKS4-1032-130	
		or AELS-1032-130	
50	50	AN3C4A	BOLT
2	2	AN3-5A	BOLT
50	50	AN960C10L	WASHER
2	2	AN960JD10L	WASHER

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 61352
C 210/8119

GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) ALL DIMENSIONS ARE IN INCHES
- 3) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) USE DART DRILL TEMPLATE TD2577-205 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION D-D (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/-291
- 6) WELDING TO BE DONE PER DART QSI 004.
- 7) FINISH:

SEE NOTES ON

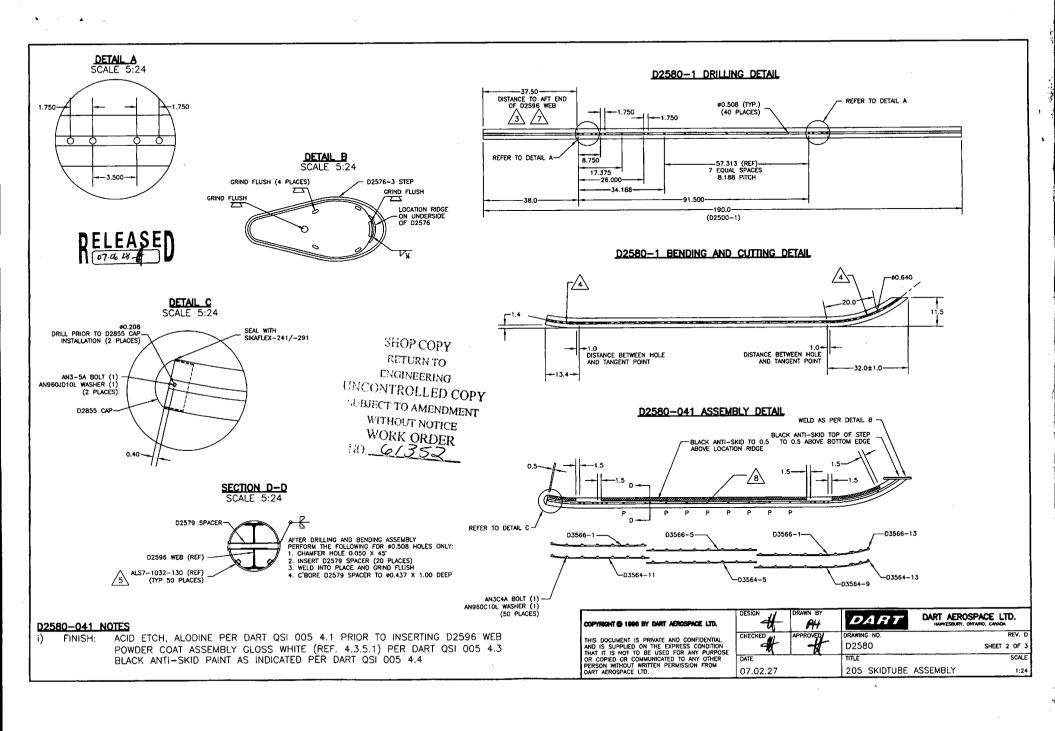
PAGE 2 FOR D2580-041 AND

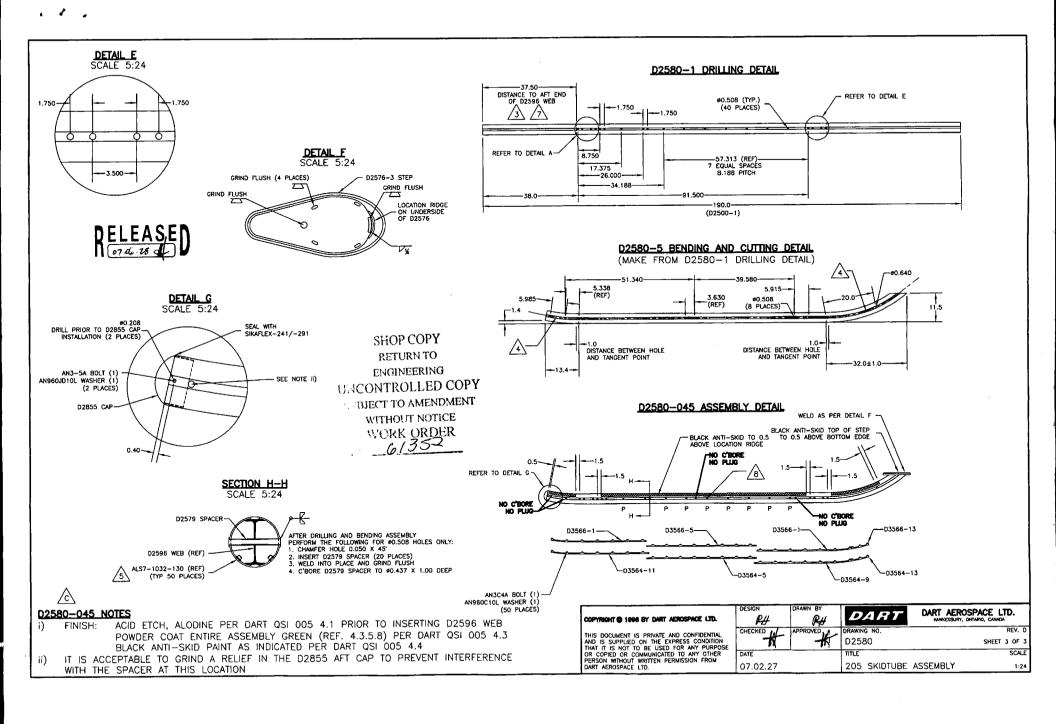
PAGE 3 FOR D2580-045

 INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES).

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NO. <u>238</u>

AWS D17.1.2001 QUALIFICATION TEST RECORD

Name: Baralan Ellicht
Job number: 61353
Part number: 5205-634-041
Description: 205 Kid tube
Welding Process: Tig[\(\forall \) Mig[]
Base materiel: Aluminium
Current: AC[] DC[]

TEST REQUIREMENTS AND RESULTS

	•
Visual: Penetration:	pass[] fail[] pass[] fail[]
UNACCEPTABLE	
Cracks: Undercut: Pin holes: Overlap (cold lap) Porosity (surface): Coloration:	pass[] fail[] pass[] fail[] pass[] fail[] pass[] fail[] pass[] fail[]
Qualifier Sorchy Establish	Date of Test Coupon <i>10.08.25</i>
\mathcal{Y}	

The above named individual is qualified in accordance with AWS D17.1.2001 to weld